

ABSTRACT OF THE DISCLOSURE

A workpiece taking-out apparatus performs snap with a camera of a three-dimensional visual sensor in a robot position for snap and captures an image in a personal computer. The workpiece taking-out apparatus detects workpieces to find a line of sight of the camera for each workpiece, decides an area for height measurement by a range finder to save height data in the area, and finds an intersection of line of sight data of the camera and height distribution for each detected workpiece to find a posture of the workpiece from the height data around it. Then, the workpiece taking-out apparatus decides a workpiece to be taken out this time from the position and the posture and decides a measurement position of the three-dimensional visual sensor close to the workpiece. In the measurement position, the workpiece taking-out apparatus performs main measurement by the three-dimensional visual sensor to decide a robot position for taking out a workpiece through check of the possibility of interference and execute taking-out of the workpiece in the robot position for taking out a workpiece through check of the possibility of interference again.